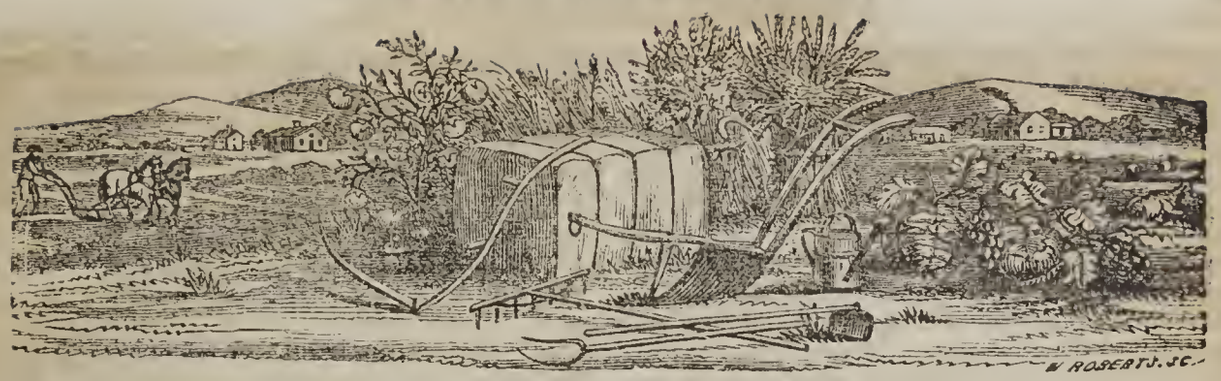

THE FARMER AND PLANTER.

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From the Laurensville Herald.

Extract from a Report

To the Laurens Agricultural Society, held at Laurens C. H. September 26th and 27th, 1855.

PLANTATION HYGIENE.

The attention which is beginning to be bestowed by physicians on the investigation of the Medical Topography of the pevailing diseases of the different sections of the country, is calculated to lead to the most satisfactory results. The investigation is an important one, as it is from the information it is likely to afford, that we are to arrrive at a more correct knowledge of some of the most interesting points in relation to the etiology of many diseases; especially of those endemic to particular sections or neighborhoods.

In presenting a report on Plantation Hygiene it will hardly be expected of me to go fully into the details of the Medical Topography of the District, but it will scarcely be possible to adduce anything satisfactory without entering briefly into an investigation of the character above alluded to—the causation of some of our prevalent diseases. To know the cause of a disease is sometimes to be able to cure it, often to be able to prevent it. I propose, then, to offer you a few suggestions on the subject of causes, and to point out, as well as I can, in a paper of this length, the best means of removing them.

* * * * *

There are many and diversified causes of disease. But it will only be necessary for us to seperate those which are of acknowledged local or temporary existance, and those to which the human body is often and necessarily exposed, and to treat principally of the former. The commonness of the diseases arising wholly or in part from an impure or noxious principle of the air, called malaria, makes it necessary that I should present some points or questions connected with it, not with any vain expectation, however, of shedding upon the subject new light, or investing it with particiualar interest beyond what it has already received. This effluvia, so deleterious to health at certain seasons and in certain localities, is generally conceded to be generated in greatest abundance in marshy Districts, along water-courses, by ponds and stagnant pools; and that the immediate agents requisite for its production, are heat moisture and in many instances, vegetable matter.

It has long been considered, that the humid putrefaction of vegetable substances was necessary to the production of this peculiar and wide-spread poison, and it is no doubt true to a great extent with us. But not true universally. That the products of vegetable decay and decomposition do often co exist with malaria, but are distinct and sparable from it, and not at all times essential to its formation, there can be little doubt. There is reason to believe that the flooding of a porous earthy surface with water, and subsequent drying of that surface under a certain degree of heat, constitute the main conditions of the generation of the poison. This argues that it may depend, in part, or in some

sections, upon some geological constitution of the soil itself, and also that it is not enhanced by the abundance of water, but the paucity of water where there has been an abundance. The wetest and dryest seasons, so far a malaria is concerned, seem most favorable to health. An abundance of rain, continued, would not favor the effect of malaria. Dry weather continued throughout the year, would also be unfavorable to the rapid decomposition of vegetable matter. Frequent rains, followed by hot days and cool nights, are almost sure to be accompanied by sickness.

The effects of malaria are modified by the temperature of the place; in low and hot situations it ma give rise to an affection not dissimilar to yellow fever, certainly not differing from the country fever prevalent in the lower part of the State; and in proportion as the location is higher and cooler, the fever may be remittent or intermittent. These fevers, with the congestive, are certainly the offspring of its presence, and its influence may be observed in many other diseases, during the times of its prevalence—mostly in the fall. But that it acts specifically in the productin of some other forms of fever, which have been attributed to it I have reasons to doubt.

For the last several years, we have been, so far as I know, almost free from malarious diseases, and their subsidence had begun to give strong hopes that its principle causes or sources were, to a great extent, removed or modified in our District. Our exemption, was no doubt, owing in part to the cultivation of our bottoms and the dry seasons. Vegetation was less luxuriant and the moisture wanting in the production of malaria.

The present year has been quite healthy throughout the District, until the last and present month, and the diseases which have made their appearance have been of malarious origin. We have been blessed with a most flattering prospect in the growing crop. All kinds of vegetation have been luxuriant, and after maturing, it begins now to wither and decay, discase follows its decomposition. But the prevalence of malarious diseases this fall has not been general, except in particular neighborhoods, and then traceable to particular places where other influences are at work in connection with the above. The experience of most physicians is, that for the first few years after bottom lands are brought under cultivation they are apt to generate more sciknes.* The prevalence of malaria this year in some places has proven this opinion to be correct. A large tract of bottom, previously shaded and constantly moist, suddenly cleared up and exposed to the heat of the sun, will affect almost every one in its vicinity. This is owing to the more rapid decomposition of the vegetation, which had been previously accumulated within the soil, and which, being stirred up by the plow, is brought immediately in contact with heat and the surrounding atmosphere. It is well estabiished, that the first steps of civilization in a wild malarious region, often rather increases the production of the poisonous agent; yet with the progress of cultivation, the country becomes more healthy even than it was originally, in consequence partly of draining, and partly perhaps of the productive growth to to which the vegetable decay is made tributary. —It requires time for cultivation to dissipate the cause, but the united measure of a whole community will accomplish it in the end.

But during the time of this temporary exemption from fevers of this sort, we have not enjoyed uninterrupted health. Typhoid fever, Dysentery and other minor complaints, have been in our midst. Every one in the community is more or less interested on the subject of Typhoid fever. It appears to be "the pestilence that walketh in darkness and the destruction that wasteth at noonday." But I cannot go into a full detail of its nature and causes. Such a thing is imposible in a report of this sort. I cannot, however, pass it without giving a few ideas as to its causes. The unhealthfulness of dead and decaying timber and of withering weeds are suppose to act an important part in its production. But the effluvia arising from these cannot be distinguished from that of marshes; and it is by no means certain that malaria will produce Typhoid fever. Malarious District have been observed to be comparatively free from its ravages. Besides, its form and character are so different, from other fevers which we are called on to manage, that it requires entirely different treatment. What difference there can be between the noxious gas of dead and decaying timber and weeds, and that from swamps, and its peculiar influence in the production of Typhoid fever, I cannot see. If it can be accused of discrimination, the highest and healthiest ridges in our District might be pointed to as the locations of its favorite resort. Whether ill-ventilated, crowded and uncleanly apartments will produce it or not, and we think they may, it is very certain that it spreads more rapidly and is more unmanageable in such places.

In my judgement, and it is concurred in by some of the leading physicians of the District, the same cause, or the same kind of cause which produced the bad form of Dysentery amongst us two years ago, has its agency in the production of Typhoid fever; and this was almost universally attributed to epidemic influence, favored, encouraged and in some instances modified by the food and habits of the people. We have no power to extinguish the origin of epidemics, and the only principles of Hygiene which we can sensibly adopt in relation to them is to fortify the system itself against them. But as an epidemic may not at all times be wholly epidemic, but influenced by causes of a local and temporary character, it is important such local causes should be looked to. This is the case, to some extent, with this fever. Idiomalaria, or that generated about your premises —filth collecting in, under and about your ne-

*We are of the opinion that if bottom lands were thoroughly drained one, two or three years before clearing them up and bringing them into cultivation, this would not be the case, at least to so great a degree.—Ed. F. & P.

gro houses, and about the persons of individuals, from improper clothing, diet, and sleeping in badly ventilated apartments—may generate the fever, almost entirely without or independent of the epidemic influence; certainly they will hasten its development and invite its spread where that influenc is in the atmosphere. And if they were not capable of producing this disease, they will operate slowly, perhaps, but surely on the constitution of your negroes ,and you will have bowel affections, cutaneous diseases, and perhaps Scrofula.

We have seen that malaria is produced in low, damp places, generally strewed with vegetation and exposed to the heat of the sun. I should state further that its influence is mostly exerted on individuals at night, or just after sun-set, or before sun-rise. We have also intimated that cultivation, though increasing it for a short time, will finally destroy it. Trees intervening by attracting and absording it, will prevent its extension. Exposure during the particular hours of its prevalence, should be avoided as much as possible. During sickly seasons it is far more economical to discontinue work early in the evening, and remain in late of a morning, if by so doing you can escape the poison; and when the evenings and mornings are cold fires are beneficial. When the cause is supposed to reach or hover about your dwellings, the use of quinine, in small doses, or bitters prepared from Puruvian bark, have been recommended.

Every farmer ought to be capable of judging whether the buildings on his place are such as will be calculated to promote the behlth of their inmates. I have spoken of badly ventilated apartments in connection with idio-malaria, but too much cannot be said on this subject. Human beings, crowded together in tight houses vitiate the air themselves, by the detention of a large amount of carbonic acid gas within the room. The air we breathe is composed of oxygen, nitrogen and a very small proportion of carbonic acid gas, and the product thrown out from the lungs is principally carbonic acid gas; and this gas, in a larger proportion than it is found in the atmosphere, is exceedingly noxiou—persons cannot live under its influence long. Too little attention is given to the construction of negro houses, in notproviding properly for the admission of fresh air. The custom has been too prevalent to build their cabins on the ground with dirt floors, and so tightly, chinked as to admit of very little air from without exeept what passes in at the chimney. The opposite extreme of having them too open is also injurious. During winter, either of these plans of building are liable to produce catarrhal affections among their inmates; the one by keeping them shut up, or shut out from the surrounding atmosphere entirely during sleep—the consequence is, when they come out their constitutions are in a condition susceptible to cold—the other by exposure to a current of cold air during sleep. It is considered an error to suppose, because the negro covers his head and breathes the same air over and over again that he requires a smaller amout of oxygen than the white man. He is forced to get less when in a cold aparment. and the same contingeney exists when he is shut up too close and crowded. Let your negro houses be elevated so as to admit of a free current of air under them, and keep them cleansed inside, outside and underneath. Suffer no filth to accumulate about them ; let them be airy and roomy; have them whitewashed outside and in with lime, and let no apparent necessity allow you to permit them to become crowded.

The subjeet of hospitals for the sick on plantations has been so frequeutly presented to you through your Agricultural Journals, that it is unnecessary to enter into an argument on their untility in this report. The idea is a good one and must meet the approbation of every sensible man.

We think that as a general thing, negroes are too lightly elothed during the winter months.—They withstand the effects of cold weather with less eomfort than the whites. The latter may find it necessary to wrap himself in a eloak or blanket and sleep upon the cold earth, proteeted above only by the cannopy of Heaven. The negro cannot safely or comfortably expose himself in such way and if forced to do it of necessity, he must either have fire or he will soon begin to complain of the deleterious effects upon his constitution of the cold and chilling air. This inablility to endure cold is in consequenee of the slower generation of animal heat, "and he seeks to breathe the heated air for that purpose, whether to be found in the folds of his blanket or in the fire place." "It must be evident that the seleetion of proper clothing for negroes is one of of the most important considerations connected with plantation hygiene; and such is now the eheapness of the course kinds of goods, which are most suitable for them, that no good reason can be given for neglecting to clothe them in a manner most conducive to the preservation of health—a measure required equally by considerations of humanity and interest. Not to mention the danger of the loss of life, from a want of proper protection by warm clothing, the loss of time, and expense of medieal aid and medieine are much more detrimental to the profits of planting than even the most expensive arrangements in referenee to this matter that can reasonably be suggested."

Much might be said on the diet and dietical regulations as a means of preserving health; but almost every one is so well prepared to inform himself on this subjeet that we deem it unnecessary to devote much of this report to it. The inhabitants of this country have been accused of eating faster and consuming more indigestible food than any people on the globe. We do not doubt but a great deal of the food consumed throughout the eountry is badily prepared and too hastly eaten particularly by our buisness men. But there will be found as few dyspeptics in this country as any other; and as a general rule our negroes are fed on the most wholesome food, and they always have time to eat. It is believed by many that fat meat is injurious as an article of diet, even for negroes, and many of our summer complaints are attributed to it while others think that on ac-

count of abundant fatty matter which pork affords, it is bettter calculated than any other for the healthful sustenance of the negro race; because this fatty matter is supposed to be a source of animal heat, the generation of which is more tardy in the black than the white man. Fat alone is certainly more difficult of digestion than lean meat. Percira, in his treatise on food and diet, holds the following opinion on the subject of fat bacon: "The fat of salt pork and of bacon is less injurious to some dyspeptics than fresh animal fats. This must depend on some change affected in curing, it for in the cases which have fallen under my observation, the fat of salt-pork or of bacon was the only of fat which did not disburb the disgestive organs. Dr. Combe, however, suggest that it may depend on the presence of bile in the stomach. But on this explanation, other fats should be equally digestible, which, according to my experience, they are not." And the editor of this work adds in a note, "We have treated many cases of cholera infantum where every thing would be rejected from the stomach, except salt-pork or fat bacon, rare broiled and given in small quantities at a time. Many cases have recovered under such a diet where vegetable fairinaceous food could not be retained, or if retained, passed through the alimentary canal undigested." We do not advocate the free use of fat meat at any time, and when used during summer it should be combined with a plentiful supply of vegetables. On large plantations, the growing of garden vegetable sufficient to supply the wants of all the negroes, is too much neglected. It is certainly fortunate that hog and hominy are produced in such abundance in the Southern Country—corn and pork constitute the basis of the food upon which our slave population is subsisted, and in a country where vegetables of almost every variety grow in such luxuriancc, it is evident nature has equally adapted them to the healthful sustenance of the negro as well as the white man. Every family, on large plantations, should have its garden and time sufficient to cultivate it. This like clothing properly, is demanded by considerations of interest to the owner, and enjoyment to the slave. We do believe, also, that an abundant supply of good fruit is of prime importance to the promotion of health contrary as this opinion is to that of many.

One word as to the time of eating—particularly breakfast: It is a great error; especially during sickly seasons, to send your negroes into the field before eating. The system is more susceptible of the influence of cold, malaria and other morbib causes, in the morning before eating than at any other time; and hence it should be a point of duty always to give your hands breakfast before exposing them to the morning dews and other noxious influences.

It has been found that during the prevalence of bad forms of fever, of all the means used to check its progress, nothing proved so successful as an early breakfast. In aguish Districts, also, experience has shown that the proportion of sick among those who are exposed to the open air before eating, is infinitely greater than among those who have been fortified by a good breakfast. In many constitutions much exertion or exercise, either of body or mind, before breakfast, operates injuriously, producing exhaustion, langour and unfitness for the ordinary occupations of the day. There are exceptions to this, but as a general thing we think it a matter of importance to breakfast soon after rising.

We might say something on the subject of abstinence from the use of wine and intoxicating drinks by those in health, as conducive to the preservation of that health, but enough has been and will be said on this point in support of the temperence reform. It was once simply recommended to the English people that they should, at some period of their lives, try the plan of abstinence from wine, and if it did not agree with them they had the remedy within their reach. Let adstinence be tried and it will not be found so full of thorns and briars as some suppose it is; it will more fully fit us to promote the best interest of man in his three-fold capacity of a physical, intellectual and moral being.

Respecfully submitted,

JOHN A. BANKSDALE.

How to Use Guano.

The following directions respecting the use of guano, are from the London Mark Lane Express. We are aware that the first rule given has been made the subject of doubt, but are still convinced that it holds good in most cases.

[*C. Standard.*

First.—Never mix it with anything; all lime, compost, ashes, and similar ingredients, too often contain enough caustic alkali to drive off the ammonical parts before the soil can surround and absorb them. A vast amount of mischief and loss often follows this sad mistake. If applied alone, the soil will best adapt it for plants.

Second.—Mix as much as possible with the seed, not too deep, but plow it in after sowing it broadcast, unless it be for beans or drilled and ridged crop, when it may be sown on the surface before the ridges are made.

Thiid.—If applied as a top dressing, always apply it, if possible, before rain, or when snow is on the ground; and if on arable land, harrow hoe, or scuffle, if possible, immediately after the operation.

Fourth.—The best mode to apply it is by water. A slight solution of it is by far the most powerful and speedy application.

Fifth.—If sowed with drilled grain, or indeed any seed whatever, it should never come in contact. It is not a bad plan to sow broadcast, after the corn drill, and the harrow, as it is kept in the nearest proximity to the seed, without coming in contact with it.

Lastly.—*Be sure* to get, if possible, the *genuine article; cheap* guano there is none.

The quantity of *genuine* guano per acre used is from two to three hundred pounds. The latter quantity when the land is deficient and requires speedy renovation.

Corn meal should never be ground very fine, it injures the richness of it.

From the N. C. Cultivator.

On the Accumulation, Preparation and Application of Stock-yard and Stable Manure.

(CONCLUDED FROM PAGE 145.)

Swamp Muck and humus are similar in their properties to peat. One of the best methods of using peat or swamp muck, is to make it up into pies, as they are called, containing one part of dung, and from three to six parts of peat, green vegetables, &c., mixed with a little lime or ashes. This, if carefully tended and turned when the fermentation gets too high, in the course of a week or two turns out a free, fine black mass which can be used weight for weight, as farm-yard manure, and in a course of cropping fully sustains a comparison. This preparation is peculiarly conducive to the growth of clover and the soil acquires a predisposing tendency to promote such grasses, so as to prevent the introduction afterwards of coarse or sour herbage. The addition of lime is not absolutely necessary, but when it is replaced by alkaline salts the preparation is of much greater utility, since the peat is rendered completely soluble. During a dry season the prudent farmer will industriously remove all the muck from evaporated swamps, and compost it with dung or urine, night soil, soap suds or other putrescent matter; this compost is excellent and suitable for almost any variety of soil, though best for sandy and light ones.

The value of all animal manures depends much upon a variety of circumstances, viz:—upon the length of time and the manner in which they have been kept, and upon the food, age, condition and amount of labor, of the animals which produce them; they are usually exceedingly active, but of short duration in their effect. Among vegetable substances, those most valuable as food are also the best for manure, and the cost of the article alone determines its application to the earth, or for our own use. The continual use of vegetable manures will not bring the land up to the highest degree of fertility; they must be aided by animal manures, which by means of the azote they contain exercise upon the soil a peculair influence. If the farmer contensts himself with feeding his cattle on substances of difficult decomposition, and containing but little nourishment (as straw,) the food will pass through their systems with only a slight change, and without being animalized in consequence of the weakness brought about by such a diet. El. Ag.—Skinner.

Manures fail in producing the desired effect in proportion as draining is neglected; applied to wet soils they are soon dissolved or wasted. It is a well settled principle that the soils to which they are applied should be prepared for their reception by being well pulverized. By this means the manure can be more intimately incorporated with the soil, and more accurately proportioned with most benefit to the soil and crop. A distinguished farmer of our own country has said "that the agriculturist who expects good crops after neglecting his manure, is equally a fanatic with the religionist, who expects to get to Heaven after neglecting his morals." Besides the dissipation of gaseous matter when fermentation is pushed to the extreme, there is a great disadvange in the loss of heat, which if excited in the soil is useful in promoting the germination of seed, and assisting the plant in the first stage of its growth, when it is most feeble and liable to disease. This process is peculiarly favorable to wheat crops in preserving a genial temperature beneath the surface late in autumn and during winter. A slight fermentation is useful, as by it a disposition is produced in the woody fibre to decay and dissolve; too great a degree is highly injurious, and none at all is better than too much. It would appear, therefore, that theory requires the application of manure to the soil as soon as fermentation begins, so that it may exert its full action and lose none of its nutritive powers. In fermentation beneath the soil the fluid matter produced is instantly absorbed by the earth or the organs of the plants, and consequently more benefit is experienced than from applying manure, which has gone through the process, and all of whose principles have entered into new combinations. The pernicious effluvia disengaged in putrefaction seem to demand the burying of offensive substances in the soil where they are fitted to become the food of vegetables. The fermentation and putrefaction of organized substances in the free atmosphere are noxious processes; beneath the ground they are undoubtedly salutary. A late writer emphatically says, "By the litter of Indian corn and of small grain, and by penning cattle with an inferior degree of skill, I venture to affirm that in ten years, a farm may be made to double its products, and in twenty to quadruple them."

Before closing this essay, it would be well perhaps to say a few words of the manner in which manures act through the earth on plants, so that having once ascertained the general principle, we may apply it in the best way. In broad terms then, manures are those substances which when applied to a soil tend to promote the growth and perfection of plants, by supplying them with such nutriment as may be deficient in the soil, and may be necessary for bringing crops to perfection. It has long been known that plants, besides the organic matter of which their bulk is composed, contain a variable per cent. of mineral matter that remains as an ash when the plant is burned. The constant recurrence of these matters in plants has convinced all intelligent observers that, "The theory of manures consists in applying to the soil those inorganic constituents which are contained in the ashes of the plants intended to be cultivated, and that nitrogen or nitrogenous substances in the form of nitrates or ammonia, or its salts, are indispensable to insure permanent fertility and perfect growth."—Browne's Field Book, p. 388. The ashes of all crops always contain these ingredients, silica, phosphoric acid, sulphuric acid, lime, magnesia, oxide of iron, potash, soda and chlorine, and in addition they contain carbonic acid, united with bases sometimes the oxide of manganese, and ac-

cording to some, alumina. The opinion that these substances are the ingredients of a fertile soil, and that they in conjunction with others, which exist more or less abundantly in the air we breathe, constitute the food of plants, is not a mere theory, but an actual law. Plants must therefore obtain from the soil, or the manures applied to it, as well as from the air, a certain number of elements, if they are to be developed and thrive. The volatile parts of plants thrown off by combustion or decomposition, consist of carbon, hydrogen, oxygen, nitrogen, phosphorus and water. The carbon is probably derived from the atmosphere, which always contains carbonic acid; from water, which reaches the plant in the form of rain, dew, &c.; from the seed, which contains carbon in itself; and lastly, from the soil and manure, in the form of carbonate of lime, magnesia and the alkalies, and in that of decaying vegetable and animal matter, as well as free carbonic acid. The hydrogen is probably derived from the atmosphere, from water, from the seed itself, and from the soil and manure. The oxygen and nitrogen from the same sources.

"In order to make a judicious and economical use of manures, three things are required to be known: 1st, the amount of mineral or inorganic ingredients abstracted from the air by an average crop of the plant to be grown. 2nd, an accurate analysis of the soil and subsoil taken from the several parts of the field, and 3rd, the amount of fertilizing matter contained in a given quantity of the manures to be employed, and the quantity that experience has pointed out as producing the most satisfactory results." Water is the great solvent by which vegetabes are enabled to absorb the substances upon which they feed. Hence during a very dry season the crops suffer, not because Nature has not supplied the appropriate aliment necessary for their sustenance; but because the solvent is not present in sufficient abundance to enable them to appropriate the food provided for their use. If rain is superabundant, the solvent may exist in too large a proportion, and thereby weaken the aliment. Organic matter when reduced to its primary elements, exists in a liquid or gaseous state, and will readily combine with water or the atmosphere, and is thus absorbed by all vegetables through their rootlets and leaves. The productiveness of a soil depends upon the elements of its composition; if those abound which afford the food necessary for the particular crop which is intended to be grown, it may be expected that the crop will flourish and yield abundantly, otherwise not. Liebig in various parts of his able work on Organic Chemistry, has shown that plants derive from the air by the absorbing power of their leaves, a large and regular supply of carbonic acid; that during the summer plants derive their carbon exclusively from that source. Since they also possess the power of decomposing water, we find here the sources whence are derived three of the principal elements which assist in furnishing food for growing crops. Nitrogen is essential to the vigorous and healthy growth of plants; this element exists in large quantity in all animal substances, and also to a considerable extent in decaying vegetables, but much of it escapes as ammonia during decomposition. It was difficult until the great mind of Liebig shed such a brilliant light on organic chemistry, to account for the manner in which this indispensable element to fertility was replenished, but he has clearly shown that ammonia, consisting of hydrogen and nitrogen, is combined in small quantities with rain water and snow, and thence the loss of nitrogen sustained by the removal of the crops from the soil on which they grow, is in a limited degree restored. Nitrogen is also supplied to crops from the atmosphere; but notwithstanding this, the utmost care should be used to keep our lands well supplied with it by taking nothing from them but what is necessary, by restoring everything possible, and by cultivating clover and other ameliorating crops, which take but little from the soil, while they add to it all the fertilizing ingredients they derive from the atmosphere. Next to oxygen, hydrogen, carbon and nitrogen, the alkalies, potash and soda, constitute the most important ingredients in the food of plants; they are capable of combining with a great variety of substances, and in various states of combination form an almost indispensable food for nearly all kinds of plants.

Animal and vegetable matters are the enriching substances, but unlike the earths, are not of a permanent nature, because the growing crops constantly extract their juices from the soil for their own nourishment. The earth serves as a support for the growing plants, a place for them to stand in and as a receptacle for their food, in a precisely similar manner as the stomach of animals prepares and digests their food and fits it to be taken up by the lacteals, and thus transported and transferred through all parts of the body to be converted to its appropriate use, of strengthening and vivifying the entire system; the rootlets or spongioles, those long hair-like fibres springing from all parts of the root and running in every direction in search of food, answer the same purpose in a plant. A curious experiment in proof of this is recorded: a large bone was buried at some distance from a grape vine, and in a place where at the time there were none of these fibres; some time afterwards, on being dug up it was found completely covered by them, which had worked their way into its solid substance and sucked out its invigorating juices. When a sound seed is planted, the moisture of the earth causes it to swell; the pellicle which surrounds it is weakened and the embryo bursts through. Vegetation then proceeds in two opposite directions, forming the radicle or little root below, and the plumule or little tuft above; that a seed may develop itself and form a plant, it is not only necessary that it should be placed in the soil, but that other favorable circumstances should surround it; the soil must contain humus, (the fertilizing product of decomposed animals and vegetables,) and the mineral substances required for the nutrition of the plant, and there must also be a concurrence of certain atmospheric influences, heat, air, moisture and light. The success of

germination depends upon a union of heat and moisture; if one or the other of these agents should preponderate for any length of time, the plant would suffer and finally perish. Air is indispensable on account of the combination of the oxygen it contains with the carbon enclosed in the seed; it also acts by its weight, pressing upon the pores and preventing the escape of the sap and blood from their vessels. Without light, germination may take place, but no plant can flourish, or at best will be feeble and soon perish. The unerring pencil of the Sun in the hand of His Creator, paints the rose's blush and the violets cerulean tinge, places the bloom on the luscious cheek of the peach, paints with living light every blade of grass, and images his beauty and might in every tiny drop of dew. "The Heavens and the Earth are full of thy glory, O Lord! and let everything that hath breath praise Thee."

The writer of these pages is abundantly conscious of the many faults of his production: he has labored to set forth those theories and principles which are based on the highest authority, and to state those facts only which are supported by the highest evidence. All the faults and errors he claims as his own, and he hopes they may be considered venial, all the good, and he flatters himself there may be much belongs to those distinguished authors from whom he has so largely borrowed.

O. O. O.

Raleigh, N. C., Sept., 1854.

Cotton Seed and its Uses.

The following article from the "Railroad Record," will, doubtless, interest many of our readers. If the calculations of the writer are founded on correct data, then his conclusion is, no doubt, legitimate, and if the seed with "residue of fibres" (which latter we think is greatly over estimated at 40 per cent,) are actually thrown away, or comparatively worthless when used as manure, then we may readily agree that "the present cultivation of cotton presents an anomaly in agriculture." But we are much disposed to doubt whether the seed, &c., can be put to better or more profitable use by the planter than that of manure Experience has taught every one the value of cotton seed when used as a manure, but without many well conducted experiments, their value as such will, in all probability, be under estimated when compared with their convertion into oil, oil-cake and paper.—Ed. F. & P.

In looking over the annual reports of the products of this great staple, one cannot fail to observe that the only product of the cotton crop, extensive as it now is, is the fibrous covering of the seed, the cotton of commerce. The seed itself, the real fruit of the plant, is now of no absolute value except to manure the fields. And it is considered that nature in most other agricultural products, has made the fruit itself of more value than its covering, it will be readily conceded that the present cultivation of cotton presents an anomoly in agriculture, and one which analogy would lead us to suppose could hardly exist. What if the producer of flax should throw away for one year only, the ripe seed of his plant, would it not be a commercial calamity to be regretted by every citizen of the world? If the grower of wheat, or corn, or oats, should content himself with the product of his farm in chaff, would not civilized nations at once condemn his folly and compel a change of policy? It is true that the value of chaff in the one case, and flax in the other would illy repay the labors of the cultivator, but if they paid him a thousand fold, would he not be equally unwise to waste a large portion of the product with which the bounty of nature has repaid his toil? He has sown his seed, nature has given the harvest, and the wise man will make as much of it as he can. And so we conceive it must be with the cotton crop. The cotton fibre is not the only, nor the largest portion of the return of the soil, yet it is at present the only portion that has value, because the only portion applied to the arts, or made to minister to the wants of man.

But is the refuse of the cotton crop of no value? Is there no purpose in the wide range of art or manufacture to which it can be applied, and be a source of profit to the planter? In seeking the solution of this question we shall consider first, the amount of this refuse at the present moment, and afterwards the uses to which it may be applied.

First. The amount of the refuse of the cotton crop. As near as can be ascertained about 5,000,000 acres of land are planted with cotton; the average product of this land is little over 300 lbs. to the acre, baled cotton, making according to the author of "Cotton is King," in 1853, a total production of 1,600,000,000 lbs. baled cotton. Now, *one pound* only of baled, is obtained from *three and one-third pounds* of the rough product. We have, then the following statement of the cotton product of the country in 1853:

Total product of the field	5,333,000,000
" baled Cotton	1,600,000,000
Refuse, thrown to wasts	3,733,000,000

This, then, develops the remarkable fact, that the *refuse of the cotton crop is, in eight, two and one-third times as great as the present available product of the cotton culture.* If Cotton is King now, when only thirty per cent. of the fruit of cotton plant is made available, what will be the importance of this great staple when the plan-

tation shall yield one per cent. of valuable and available product?

Second. The uses to which the refuse of the cotton crop may be applied. The refuse of the cotton crop consists of the seed and a residue of fibre still adhering to it, in the ratio of about 40 per cent. of fibre, and 60 per cent. of seed.

The Fibre. The fibre immediately covering the seed is worthless to the spinner, but may nevertheless, be made available in the arts, for just such purposes as the worn out fabrics of the manufacturer are now employed and will supply a commercial want that has long been felt, and for which ingenuity, misdirected, has long sought. This worthless fibre subjected to proper preparation will furnish a valuable supply of material for paper making. Assuming the value of this to be the same as the cheapest rags in market, and we have—

Total refuse.....3,733,000,000 lbs.
Fibre 40 per cent.....1,493,200.000
Value at 1 ct. per lb.....$14,932,000

Now allowing 20 per cent. for wastage in manufacture, the usual allowance of paper makers, and the quantity of paper made annually from this refuse would be as follows:

Fibre .....1,493,200,000 lbs.
Waste 20 per cent.....298,640,000

Paper.....1,194,560,000 lbs.

Estimating this as common wrapping paper per pound, and we have—

1,194,560,000 lbs. paper at 5 cent...$59,728,000.

And when it is considered that at least two-thirds of this material is suitable for the manufacture of fine printing paper, worth from 11 to 14½ cents per pound, this will be found to be a low estimate.

A large portion of the profit of this manufacture would accrue to the cotton growing States, as the labor necessary to be bestowed, paper making is comparatively little.

To paper makers and those connected with the press, who know the commercial want of such a material, we need say nothing of the value of such supply at the present moment. The most careless observer cannot fail to perceive the important bearing which such a saving annually would have on this portion of our agricultural, manufacturing and publishing interests.

The Seed. The seed of the cotton plant is in itself by no means a worthless material. Like flax and other seeds it contains a large per centage of oily matter, which can be extracted, and applied to useful purposes. Recent experiments have shown that cotton seed oil, is one of the most valuable for both illuminating and lubricating purposes. In these respects it ranks equal to the best sperm oil, but in calculations of its value, we shall put it as equal to the cheapest grease in the New York market.

Cotton seed when compressed, yields 30 per cent. of oil, and 70 per cent. of oil cake. Assuming the same data as before, the yield of oil would then be as follows:

Total refuse of crop.....3,733,000,000 lbs.
Clean seed, 60 per cent.....2,229,800,000
Oil, 30 per cent. of last amount.671,940,000
Oil cake 70 per cent.....1,567,860,000

Values. The cheapest grease offered in the New York market now sells at ten cents per pound. Assuming this to be the value of cotton seed oil, and we have the following result:

671,940,000 lbs. of oil at 10 cts...$67,194,000

The value of this oil reduced to gallons would be 75 cents per gallon. The cheapest lard oil in the Cincinnati market, at the present time, is 90 cents.

Cotton seed oil contains the Stearic principles of other vegetable and animal oils, and is, therefore, suitable for the manufacture of star candles.

The residue after the extraction of the oil, is oil-cake, and is valuable for feed. Other oil-cake sells at one cent. per pound. We shall estimate this at one-half cent per pound. Its value then is:

1,567,800,000 lbs. ½ cent. per lb.....$9,839,300

But there is another method by which the oily matter of cotton seed may be extracted, which is more applicable to the purposes of the manufacturer, as requiring less labor and less mechanical outlay and skill; we refer to the method of chemical saponification recently invented by Edgar Coukling, Esq., of this city. The advantages possessed by this method are its simplicity and greater production of oily matter. If this method was universally adopted by Southern manufacturers of soap, no portion of the world could compete with the South in the manufacture of that article. It yet remains for chemists to show whether the refuse of the oil maker may not yield starch in abundance, and a valuable dye. We already know that the present residum is an excellent manure.

Conclusion. It would seem then from the considerations already mentioned, that we annually waste 3,733,000,000 lbs. of valuable vegetable products, the value of which may be briefly summed up as follows:

Paper.....$59,728,000
Oil.....67,194,000
Oil-cake,.....7,839,300

$134,761,300

Allowing one half for manufacturing, and

there would still remain a clear gain to the country as profits and for cost of material $67,380,650, over fifty per cent of the present value of cotton crop.

Cotton Seed.

Much activity exists in the agricultural branch of the Patent Office, under the direction of Mr. D. J. Brown. A number of gentlemen in various parts of the country are engaged in making experiments in agricultural chemistry, and several interesting reports have just been received. One from Dr. T. Jackson of Boston, who had analyzed the corn cob acquaints the Bureau that cobs contains four and a half parts nutritive matter, consisting of gum starch, and dietriene. Another report from the same gentlemen furnishes the result of chemical researches on the seed of the cotton plant, made during geological excursions through the States of North Carolina, South Carolina and Georgia. The report says that cotton seed may profitably employed in the production of a reih oil and that the wooly fiber adhering to the hulls may be economized in the manufacture of paper, while the substance of the seed may be employed for feeding animals, and also as an excellent fertilizer.* The following is the analysis of the oil-cake made from the cotton seed:

Carbon, 37.740; oxygen 39,683,; nitrogen, 7,753; hydrogen, 5,869; salts (inorganic,) 8,960 —total, 99,985. On separating the various salts and reducing them to their ratios, for 100 grains of the oil-cake, the following results were ascertained: Alkaline salts, soluble in water 0,13; phosphate of lime, 3,04; potash, 0,45; soda 0,53 phosphoric acid, with traces of sulphouric acid and chlorine, 0,81; silica and oxyds of iron magnanese, 0,18; loss 0,35—total, 5,50.

This analysis justifies the use of cotton seed as a manure for Indian Corn, which draws so largely on the oil for phosphate.

The Bureau has been distributing tubers of the Chinese yam, which was recently introduced into France from the north of China and which bids fair to serve as a substitute for the potatoe.—*N. Y. Tribune.*

*See article above.—Ed. F. & P.

For the Farmer and Planter.
On the Culture of the Sweet Potato.

Mr. Editor:—I have always felt disposed to impart any agricultural knowledge that I may have acquired from experience. I will now state my plan and practice for many years in preparing land for, and planting potatoes. In the first place, I take a piece of land that is high and sandy, for I am like every other planter, I prefer high and sandy land for potatoes, and the first year I lay it off 4 feet with a good shovel plow, and put 3 bushels of good compost manure to each task row. I put the manure in the track furrow, and then run 2 furrows on it with a good shovel plow. On this ridge I plant cotton the first year; the next year, as soon as it is time to plant potatoes, which, with me, is about the first week in April, I thrash all of the limbs from the cotton stalks, leaving the stalks standing. I then take a good shovel plow and run up on the beds close to the stalks on each side, and if those 2 furrows do not plow up the stalks, I run one more on the top of the beds, which will invariably do the work, or loosen them so much that the hands can pull them up, which I make them do and burn them. As soon as I get all the stalks pulled up and burnt, I turn the plow back, and make as good a bed as I can with the plow, on the same bed that the cotton was planted, so that my potatoes will have the benefit of the manure that was put on the previous year. I then open my seed bank, and let some cut and some plant, so as not to have the potatoes too long out of the ground after they are cut, (I never plant whole potatoes). I cut my potatoes from ½ to 2 inches long. One hand opens holes, and one drops the potatoes. I open with the point of the hoe on the bed about 12 or 14 inches, which is plenty near enough to plant potatoes, the hand droping the potatoes and presses hard on them with the foot, and another hand covers them up, and as soon as the hand that is covering the potatoes gets through covering, they turn back and run the back of the hoe over the top of the bed, which smoothes the top. As soon as the potatoes are up, which is about the first week in May, I put my whole sweep plows in them, and run 2 furrows in each row, the plowman running up as near as he can get to the potatoes, the 2 furrows with the whole sweep plow shaves off whatever young grass may be on the side of the beds, and throws a very pretty clean list in the alleys. I then put in the hoes and hoe only the top of the beds, and each good hoe hand hoes me 4 tasks for a day's work—that is the first plowing and first hoe work. As soon as I find they want work again, I put a good ½ shovel plow in them, and run 2 furrows next to the beds, and take out the middles with a whole sweeper plow. As soon as I get through with that plowing, I put the hoes in and haul up the ridges, and in hauling them up with the hoes, I cover up the vines* on the side of the beds—that is my second hoe work and plowing. By the middle of July they will want the last working, and by that time the vines have run over the alleys. I then plow them by running 3 furrows in the alleys very deep with a good shovel plow. I then put the hoes in them and haul them up, and in hauling up I cover the

vines up on the side of the beds. If any person were to see them at that time, they would suppose that the vines would not come out, but in about 2 weeks or more the vines on the side of the beds sprout out and soon cover the alleys again. I never dig my potatoes until the vines are killed perfectly dead by frost. As soon after the frost bites the vines, I begin to dig them, and I begin by directing some hands to go ahead of the plows, and take all of the vines off the beds. I then take a 5 or 6 inch plow and plow the beds down, and make some hands follow the plows to pick up the potatoes as fast as they are plowed out of the beds. If the potatoes are very numerous, it takes 3 or 4 hands to pick up and keep up with the plow. I then carry them to the banks, or where I intend to bank them up, in baskets in a waggon, so as not to bruise them. I put just as many in a bank as will allowance the negroes and serve the house a week. I put a good deal of pine trash on the potatoes before the dirt is put on, and I bank up about half way, and leave out the top of the bank for a week or 10 days to allow whatever moisture may be in the potatoes to escape before I close the bank up, and at the expiration of the week or 10 days, I close up the banks,* except a good air hole on the south side, about 2 feet from the top, and put a piece of bark over the air hole to prevent the rain from getting in; and until this year I have kept my potatoes all the winter and spring without having many rotten ones in a bank. *In this day of improvement in agriculture* I look upon digging potatoes with the hoe as doing a very slow business, and as I can dig so fast with the plow now-a-days, I plant very largely to the hand of potatoes, and sometimes put hogs on a part of my crop, rather than dig them and feed them to the hogs. I would not pretend to say what a fine provision potatoes are, as every planter knows that, and will conclude, Mr. Editor, by saying that I wish you success in the Farmer and Planter; and also, that I believe in book farming.

Mr. Editor, I send you this piece, and if you think it worth a place in the Farmer and Planter, or that it may be of advantage to any one, you are at liberty to publish it.

B. O.

Barnwell Dist., S. C., June 13, 1856.

*A bad practice, we think.—Ed

Timber, when cut in the spring and exposed to the weather with the bark on, decays much sooner than if cut in the fall.

Agricultural Interest---Education, &c.

The following extract from the anthal address of the Hon. Andrew Stevenson, before the Montgomery County (Montgomery) Agricultural Society, we take from the "American Farmer," with some remarks by the Editor on the same.—Ed. F. & P.

* * * * * * *

If there was one sober-minded cultivator of the soil in your county, who still entertains doubts as to the value of Agricultural Societies and Associations, and of the utility, nay, necessity of *practical* science and education, connected with agriculture, he ought to have been present at your exhibition, that he might have been convicted of his *delusion*, and *renounced his heresy*.

I said in the course of my address, and take occasion now to repeat it, that the results of your Society, and that of the State Society of Maryland, had not only nobly accredited the wisdom and patriotism of their founders, but had spread over the whole State a new zeal in favor of agricultural improvement and high farming, and added four-fold to the productions of the greater portion of the cultivated lands of Maryland. I need hardly say how strongly this has been illustrated in the range of country lying between Georgetown and Washington, and Rockville, the capital of your County. A few years ago, this whole district was not only sterile and unproductive, but, with a few exceptions, a barren waste The lands sold for not more than four or five dollars an acre, and produced from one to three barrels of corn, and some four or five bushels of wheat. Within the last ten years, the whole face of that part of the country has been changed. Now are to be seen, little else than fine farms, rich verdure, excellent enclosures, comfortable and tasteful dwellings, neat churches, and an industrious and thriving population. The lands are now selling from $25 to $50, and in some localities for $80 an acre, and producing from ten to fifteen barrels of corn, and thirty or forty bushels of wheat.

And all this result of *practical science, industry and enterprise*, aided by the influence of your Agricultural Societies, and that new spirit connected with human improvement, which is abroad in the world. And yet, gentlemen, allow me to say, that, notwithstanding all this, there is much which remains still to be done, to place the agricultural interests of your own State, as well as those of most other Atlantic States, upon their true basis, and enable the farming classes to assume the rank to which they are entttled, at the head of other professions, and which I ardently trust they are soon destined to reach; but let it be borne in mind, that, to accomplish this, *two or three things* are indispensably necessary:

Firt.—There must be an enlarged and general system of *agricultural education*, and a *knowledge of practical science*, amongst the great body of our farmers.

Secondly.—There must be *united action* and *liberal patronage* on the part of individuals and the *State Governments:* and

Thirdly.—The minds of the farming classes must be deeply impressed with the truth, *that the cultivation of the soil is the foundation of public prosperity.* And why shall not this be done? Why is it that agriculture has so long failed to assert its just claim to respectability, and place itself upon its true basis? Why is it, that whilst our State Governments and people bestow life and energy upon all other professions and branches of national industry, *agriculture* alone is suffered to languish and take care of itself? And more especially may this be asked in an age like the present, when everything in art and science seems to be bearing on the interests and destinies of man, and in no department of knowled e with greater progress and success, than in that connected with our field industry? Everything should seem to favor the advancement and triumph of agricultural skill and science. Each succeeding year is adding to the public enthusiasm for the success of agricultur , which is enlisting in its favor not only all the best sympathies of humanity, but the services of so many of the good and great men of our country. Why then should the friends of agricultural improvement despair of success? Never! We must trust in the integrity of our noble cause; in the virtue and intelligence of the people, and in the wisdom and patriotism of their representatives. They are under the control of public opinion, and we must try and bring the public mind to bear with a greater force and concentration upon the vital importance of fostering our agricultural interests, and the necessity of their advancement and success.

The members of all the agricultural Societies throughout the country, should feel it to be their duty to urge upon the cultivators of the soil, the absolute necessity of *united and concentrated action*, and continue as their open and fearless champions, to warn the *farmers* of the dangers that threaten, and the means of escape, and if they fail, it will be because *they will prove unfaithful to themselves and those who come after them.* But I must forbear, and renewing to you, gentlemen, assurances of my high respects and considerations, I remain very respectfully, your friend and obedient servant,

ANDREW STEVENSON.

Similar broad and comprehensive views were brought before our State Society at its first annual meeting, by the orator on that occasion,—Col *Wilson M. Carey*, of Baltimore—and the forcible arguments which he adduced in that address, have ever since been deeply impressed upon our mind, and more than once we have had occasion to refer thereto, it being the standpoint from which we have viewed this all-important subject of agricultural education to the rising generation. We now fully agree with "*Ploughboy*," an able writer in the Baltimore County Advocate, who has taken hold of this subject, and promises with his vigorous pen to keep it before the people during the coming winter, that the Legislature began at the *wrong end*, in its efforts to subserve the farming interests, and the sooner it retraces its steps, the better for the tax-payers generally, and for the farfarming and planting interests in particular.—EDITOR.

Experiment in Fodder Pulling.

Not only from experiments of our own, but of others made for the purpose of testing what loss of corn, if any, would result from fodder pulling, have we been fully convinced of the fact of such loss, but we have endeavored yearly to impress it on the minds of our readers, with what effect, judging from their continued practice, we are not at a loss how to decide. Yet, *knowing* the wrong course they are pursuing, we consider it our duty yearly to remonstrate against such practice. The following clearly detailed and convincing statement of experiments made at different times to test the matter, we take from the "Southern Cultivator." Read it, be convinced, and abandon the practice.—ED. F. & P.

EDITORS SOUTHERN CULTIVATOR:—Having been for a long time impressed with the idea that stripping the blades from the corn stalks for fodder was an unprofitable business, I made several experiments with the view of testing the correctness of my theory.

In the year 1848, I selected six rows of corn of equal length, and planted and cultivated in every respect alike, as near as possible. From three of the rows, I had the blades all stripped off at the usual fodder-pulling season, and upon the remaining three, they were all left. When the corn was thoroughly dried upon those stalks from which the fodder was stripped, I had it *all* gathered. Upon counting the number of ears in each lot, I found that the parcel which was gathered from the stalks with the fodder stripped off, out numbered (nubbins and all) the other, about thirty; but upon weighing the two, notwithstanding the other lot counted the most, the corn taken from the stalks upon which the blades were left, weighed 28 or 30 lbs. the most when weighed upon the cob. It was then shelled, and the parcel with the blades left on still out weighed the other by 28 lbs. I then measured and weighed it, with a view of ascertaining how much each lot would weigh to the bushel, and found the corn taken from the stalks with the blades stripped off to weigh fifty-two pounds to the bushel, and that taken from the stalks with the blades left on weighed 71¼ lbs. to the bushel. Seeing this great difference (18¼ lbs.) it occurred to me at first that perhaps the blades had been stripped too soon, from the one lot, but when I reflected upon the weight (52 lbs.) I found it to be about the average weight of that variety (gourd seed) of corn when the fodder is pulled off, as is customary in this part of the country, and, therefore, *that* could not make the difference.

Again, the idea occurred to me that perhaps the corn taken from the stalks upon which all the fodder was left was gathered *too soon*; but this view only afforded an argument in favor of leaving the fodder on the stalks, for if the corn from which the fodder was stripped, was dry enough to be housed, and that upon which the blades were left was not, but continued green and full of sap, (as it did) the corn was still undergoing the process of maturing, which I believe to be the case; consequently we are forced to the conviction that so long as the corn blade retains any sap in it, the corn is injured by stripping it from the stalk. With the intention, however, of testing thoroughly this matter, I placed both parcels away carefully in barrels, expecting to weigh them again in the following spring, at which time they would undoubtedly become thoroughly dried, but, unfortunately for this part of the experiment, the rats and mice got in among it, and so damaged it that nothing satisfactory could be done with it.

The next experiment of which I have kept any record, was made in 1852, at which time I selected five rows, equal in every respect, so far as cultivation, soil, &c., is concerned. From one row I stripped the blades from the whole of the stalk; from another I had the blades removed from the top down to the ear; from a third the blades were taken from the ear down to the roots; from a fourth the blades were taken from one side alone of the stalk, and from the top to the root, and upon the last the whole of the fodder was allowed to remain. The result was as follows:

After gathering and leaving all of the different parcels in the house for about two months to dry, it was weighed. The parcel gathered from the stalk from which the whole of the blades were removed, weighed 90 pounds; that from which the fodder was gathered from the ear to the ground, weighed 89 pounds; blades taken from one side only, 95 pounds; taken from the top to ear, 97 pounds, and where all the blades were left on, it weighed 98. This is the record which I find upon my memorandum book. As will be perceived, there seems to be a discrepancy in reference to that taken from below the ear, and that taken off altogether. This may be an error in making the record or in labeling the parcels when gathered, but whatever be the cause, I give the statement as I find it recorded.

Now, you will notice that there is a difference of 8 lbs. in favor of that parcel upon which the blades were all left, over that from which the blades were all removed; this difference is equivalent to about six pounds per bushel of 66 lbs. If, therefore, corn is selling at 66 cents per bushel, or one cent per pound, (which I believe has been about an average price in this region for several years past,) there will be a difference of $6 in every hundred bushels in favor of leaving all the fodder on the stalk.

Now, if the stalks that yield 100 bushels of corn will also yield 800 lbs. of fodder, and it shall sell for 75 cents per hundred, equal to $6 for the 800 lbs., the one counterbalances the other in market value, and the planter has, besides all the trouble and expense of gathering his fodder for no compensation at all; and this I believe to be really the case. The contrariety of opinion which exists in reference to this matter, I think, admits of an easy explanation, and is owing to the *time* at which the blades are stripped from the stalk. If they are allowed to remain on until the stripping them off does the corn no damage, they are not fit for food, so far as the purposes of nutrition are concerned, and if they are stripped off early enough to make good food for stock, the corn must undoubtedly be injured by it.

The only advantage that I know of gathering fodder in the usual way from the corn stalk is derived alone to the planter who cultivates bottom land that is subject to frequent inundations, as the corn with the blades stripped off and the top of the stalk bent down, as is customary here, will not be so liable to fall down during a freshet, from the fact that the stalk sooner becomes dry and unyielding and does not offer so much resistance to the current of water passing through it, and will not accumulate so much sediment upon it, and fall down in consequence, as it would if the blades were left on. I think it much more profitable for the planter to leave the blades upon his corn, and either gather all his shucks and feed upon them instead, or to *sow* corn expressly for forage, and cut the abundance of grass which he will (after even the most careful cultivation) find scattered all through his crop in the fall, especially if he will take the pains to cut it at the proper time, and cure it as it should be. By pursuing either or both plans, he will find that he can gather a much larger quantity and better quality of forage, in the same length of time. Much more could be said upon this subject, especially, in reference to cultivating (expressly for forage) the various natural grasses, of which we have

an abundance. But I fear that I have already prolonged this article beyond the limits that should characterize a true farmer's communication. Yours truly, PROGRESS.

South Carolina, May, 1856.

From the New England Farmer.

Grafting the Grape.

MR. BROWN:—From reading the queries and remarks in your paper of 29th ult., I feel disposed to tender my mite of information and experience to Mr. Farrar, and all would-be-grafters of the noble grape. I have grafted the grape vine with *good* success, and it always pains me to see one of these native vines, after becoming well established in the soil ruthlessly dug up as a nuisance, simply for the want of a mite of information to enable its owner to change it to any (or even all) of the different varieties to be desired. In addition to Mr. Downing's remarks, I would say, that it is better to use Babbit's grafting wax, as it facilitates the union between the stock and scion, and if put on with care (the same as in ordinary grafting) it prevents the stock from bleeding; so that one can graft them as early in the spring as the frost will permit, thereby securing a better growth and ripening of the wood, than if postponed till June. The grand secret of success is *in keeping all sprouts from growing on the head or bulb* of the vine grafted. Generally, on a vine, where the roots and top unite, there is an enlargement, (which I call the head,) which is full of eyes, which are very ready to put forth and absorb the sap and supply the place of the old vine removed. As often as once a week I dig around the head of the vine, and remove all the sprouts, taking great care not to break the buds of the scions or disturb them in the least. I never leave but two buds on a scion, and cover them with fine earth, over which strew a little fine mulching, so that it will keep moist around the buds.

I hope Mr. F., and many others, will try the above, for I think they will be more than satisfied with the result. READER.

Winchester, April, 1856.

CORN AND THE WIRE-WORM.—Mr. J. Wormley communicates the fact to the *Michigan Farmer*, that at the time of planting his corn, he put two or three pieces of corn cobs in the hill, and that in a few days if there are any wire-worms in the soil, they will be found in the pith of the cob, and will remain there without interfering with the corn. The editor of the *Farmer* suggests that at the first hoeing it would be well to take out the cobs and burn them, and thus destroy the worms. The remedy may be easily tried, and the cob would undoubtedly be worth something to the hill as a fertilizer.

To Make Pure Wine of Apples.

Being aware that much wine sold for genuine champaingne was manufactured from cider, we informed a correspondent a short time since of this fact in answer to his inquiry. The following letter was elicited by the reading of the answer referred to:—

MESSERS EDITORS—I am well aware that imitation wines are now extensively made in the State of New Jersey from the juice of the apple, and more from Harrisons apples than from any other variety, and the most of it is made in Newyark. These *knowing* ones are correct with regard to its being a mixture of poisonous drugs not fit for the human stomach.

Having been in the horticultural buisness for over forty years *I have had* an eye single to those spurious wines from the juice of the apple.

It is gratyfying to *me* to think that when you come to taste and test my wine—which I send you accompanying this letter—you will find a wine, a pure article, free from all drugs, and not an imitation. The sample I send you is eighteen months old and made after the following process:

Take pure cider made from sound ripe apples as it runs from the press. Put 60 pounds of common brown sugar into 18 gallons of cider, and let it dissolve, then put the mixture into a clean barrel, and fill the barrel up to within two gallons of being full with clean cider; put the cask in a cool place leaving the bung out for 48 hours; then put in the bung, with a small vent, until fermentation wholly cease and bung up tight, and in one year the wine will be fit for use. This wine requires no racking, the longer it stands upon the less the better.

STERNE BRUNSON.

Elhart, Ind., April, 1856.

It will be observed that our correspondent has for the benefit of concerned, described the method of making pure cider wine, and it is for us to say something regarding the sample he sent us. It is a good cider wine the liest we ever tasted. If it had any fault it consisted in being a very little too sweet. This can be remedied by using less sugar than the above named amount. A barrel of wine contains 31 gallons. Wine from currants can be made in the same manner exactly—*Scientific American.*

Cutting Timber.—If oak. hickory or chesnut timber is felled on the eight month (August) in the second running of the sap, and barked, quite a large tree will season perfectly, and even the twigs will remain sound for years; whereas that cut in winter and remaining till next fall—as thick as one's wrist, will be sap-rotten and will he almost useless for any puspose—the body of the oak split into rails wilt last more than ten or twelve years. Hickory cut in that month is not subject to be wormeaten, and will last al ong time for fencing.

When I commenced farming in 1820, it was the custom to cut timber for post fencing in the winter. White oak post and black oak rails, cut as that time. I found would not last more than ten or twelve years. In the year 1828 I commenced cutting fence timber in the eighth month. Many of the rails cut that years are yet sound, as well as those formed of chesnut. If the bark is not taken off this month, however, it will peel off itself the second or third year, and leave the sap perfectly sound. The tops of trees are also more valuable for feuel than when cut in the winter or spring.

I advise young farmers to try the experiment for themselves, and if the post fences will not last twice as long. I forfeit all my experience as worthless.—*Western Democrat.*

Guano.

Several articles on the application and effects of Guano, have been published in back numbers of the Farmer and Planter. Are any of our readers prepared to comply with the request of "Barnwell," which will be found below? If so, they will, by letting us hear from them, much oblige "Barnwell" and others, with the Editor F. & P.

Mr. Editor:—Will you or some one of your correspondents who has experimented with this manure upon corn, oblige a tyro in farming, with the history of the experiment in the following points:

1st. The description of the land, the preparation it received for the crop, and the number of acres experimented upon?

2nd. The mode and time of applying the Guano, the quantity per acre, and whether in combination with gypsum or other manures?

3rd. The manner of cultivating the crop, if different from the usual mode, and the character of the season, whether wet or dry?

4th. The cost of the Guano used per acre, delivered upon the farm, and the ratio of the yield to the yield of the natural land?

Barnwell.

For the Farmer and Planter.

Castration of Animals.

Mr. Editor:—I am glad to see the Farmer and Planter elevated upon a firm basis. It is a happy medium for communicating the valuable results of long experience and patient industry.

There is with many farmers much apprehension, and, in fact, considerable loss in the castration of animals that have matured in age, but with proper care there is no particular danger. I have my information from a man of experience, and I have tried it with complete success in old hogs.

Take the animal on the new of the moon,* keep him from food for at least twelve hours, and just before you cut, sever the large cord, tie a strong flax thread, or small twine, around the cord, as close up in the wound as you want, and then with a sharp knife cut off the testicle half an inch below the thread; then let the animal have a shaded place to lie, and plenty of water, and you need not fear.

I believe this does with cattle and horses, also. I have tried it on old sheep, and have done well; and I regard an old buck sheep the most liable to die under this operation of any other animal.

In calves, where I did not use the flax thread, I have found the holes closed on the second or third day, and so much inflamed that without relief they must have died. In that case I take a large needle and strong thread, and catch such a hold on one side of the wound, that the skin may be drawn out, and so cut off as to renew the wound, and with the fingers draw out all the black clotted blood, and grease them over again. I herewith send my annual remittance. E.

June 18, 1856.

* Perhaps the signs have some influence as is supposed by some.

Cheap way of Underdraining.

The following from Gen. Harmon, of Wheatland, N. Y., we copy from the New York *Chronicle.* It is practical, and to the point.

[*Abbeville Banner.*

There is no one subject that demands more attention among farmers, than the underdraining of low and swampy lands. In passing through the farming districts, we see many large plats of land which are enclosed, and the owners are paying taxes on, which do not yield annually the cost of keeping them. Now these useless acres could be made to pay the interest of one hundred dollars for each, annually, while the interest on the cost of improvement would not be one dollar an acre. Many have supposed, as their works show, that an open drain from twelve to eighteen inches deep and wide is all that is require to make wet land productive.

In draining, the first step is to procure suitable tools for the business. Common drains should be dug fifteen inches on the top, and three at the bottom, three feet deep on all soils free from stones. This size is the cheapest. If the banks are solid, the cheapest tile that I have used, is to lay in cedar, pine, black-ash, or any green poles that will go down within six or eight inches of the bottom; they should be stepped on and crowded down solid; then fill in one-third full of earth, pound it down with a paver's mallet; then fill the other third as before, and finish off.

One great difficulty in filling drains is, that the earth is left too loose, so that mice make holes which let in the water from the surface, which will soon spoil a drain that is made of stone, poles or brick. Water is carried under ground much cheaper than on the surface, and a field of several open drains is not good economy. When covered under ground, they may be plowed over and rendered productive. Where drains are needy in stony soils, the bottom of the ditch should be wide, so that one could stand and work in it; and stones laid so as to carry off the water. In some sections tile would be cheapest. No farmer who has wet lands should neglect to drain them because he cannot get tile.

Some plats of land are made dry by a ditch around them. Others will require several ditches through them. Such land, when made dry, will be the most productive. Carrots and potatoes will do well on such soils, and most of the spring crops. The grasses and hay from such soil will be worth twice as much as the same weight from lands that are too wet. If the wet lands which are enclosed in this State could be made dry, they would add millions to our farming products and our commerce.

The spades are used to make narrow drains —one common one, one blade five inches wide and fourteen long, and one five inches at the top and three at the end of the blade, handle five feet long, so that one can stand on the top of the ditch in taking out the lowest part of the earth.

From the Maine Farmer.

Fruit Beneficial to Health.

A noted author, speaking of the utility of fruits for food and the preservation of health, says: "The fruits of various climes should be regarded as one of the most valuable gifts which Divine Providence has bestowed upon man; and the cultivation of them should on all accounts be promoted, not merely as a source of luxury, but as a substitute for *pernicious medicine*, and as a delicious, healthy, and most nutritious article of food." Another celebrated physician says that "thoroughly ripe fruit, eaten with bread, is the most innocent of aliments, and will even insure health and strength." Volumes of similar extracts might be adduced; but the following will suffice: "One of the best aliments, and the best adapted to different ages of life, is that which fruits afford. They present to man a light nourishment, of easy digestion, and produce chyle admirably adapted to the functions of the human body."

The writer of this has himself experienced, as he believes, much benefit from the use of good fruit, and is of the opinion that for the preservation of health, it is of more benefit than any quantity of drugs a person may choose to consume. Calling, at one time, upon a physician for medicine to remove costiveness; he replied that he knew of none equal to good, ripe apples. The prescription met with a cordial reception, and has been many times tried with good success. POMS.

CHARCOAL AND PLASTER.—Charcoal dust is a powerful absorbent of atmospheric ammonia, and consequently a valuable fertilizer. Powdered charcoal is perhaps the best thing that can be used to absorb unpleasant odors arising from decaying animal and vegetable matters. A handful of charcoal dust scattered over the vaults of privies, sink-stoups, &c., will immediately correct any unpleasant odors arising therefrom. Plaster of Paris is probably the next best thing for this purpose. It should be used freely in stables, &c., especially during the warm weather. The use of these absorbents not only promotes health, but effects an important saving of valuable fertilizing matters. Rose bushes or other choice shrubs in the garden or in pots, derive great advantage from the application of charcoal to the surface of the earth around them.

From the Country Gentleman.

Root Grafting the Rose.

Around old rose bushes, both cultivated and wild in the woods, a large quantity of shoots or suckers will often spring up. These, if pulled up with a portion of the root attached, are the very thing required for root grafting the rose, a capital way of increasing the stock of many of the beautiful kinds. It is an exceedingly simple way, and if done with care, a sure one. As soon as the frost is out of the ground, it is

time to commence operations. If there is any choice of kind for stocks, select either the Boursault, Menetti, or the Dog Rose of the woods, or those that spring from the roots of other budded kinds in the garden.

Having selected as many of these as required, with pieces of the root a foot or so in length, cut off the sucker level to the part that was on the surface of the ground. Select grafts as near to the size of the stocks as they can be got.

The most expeditious way is to whip-graft them, which is, to cut a transverse section of about 1½ inches in length, with a clean cut, in the stock. A graft containing three or four buds, or six inches or so long, is then taken and pared down till it fits accurately on the place in length and breadth, from which the slice was taken from the stock; bind firmly with matting which has been soaked in water, and then place a small piece of clay over the junction to exclude the air.

When all are thus treated, they are ready for planting. Choose a well enriched spot in the garden, dig and finely pulverize; stretch down a line and open a trench with a spade; insert into the trench sufficiently deep to half bury the graft; put in the soil and press in tolerably firm, and the work is done.

Roses can be potted instead of planted, if desirable, by which means the operation can be done earlier, although unless bottom heat can be had to plunge the pots into, not with such sure results. Rind as well as cleft grafting, is sometimes practiced, and grafting wax used instead of clay.

Rose bushes obtained in this way, are excellent for forming dwarf kinds, especially if they have to be covered up in the winter. They are also well adapted for pot roses.

EDGAR SANDERS.

Classification of Soils.

The want of some system of classifying soils has long been felt. The arbitrary terms in common use convey no definite idea of the subject. A writer in the *Farmer's Magazine* recommends a classification based on analysis. We are not prepared to say that this mode is at present practicable, but it at least wothy of attention. His plan is as follows:

[*New England Farmer.*

1. *Siliceous soils*, containing from 90 to 95 per cent. of sand. These would he divided, on the same principle, into blowing sand, coarse sand, good agricultural sand, and calcareous sand.

2 *Loamy soils*; 70 to 90 per cent. of sand separable by washing, subdivided into coarse sandy loam, fine sandy loam, rich loam, and calcareous loam.

3. *Clayey soils*, with 40 to 70 per cent. of sand; divided into clay loam, clay, and calcareous clay.

Each of these soils, termed calcareous sand, calcareous loam, &c., contains 5 per cent. of lime.

Marley soils constitute a fourth group, in which the proportion of lime ranges between five and twenty per cent., and are divided into sandy marls, loamy marls, and clayey marls.

Calcareous soils contain more than 20 per cent. of lime. They are divided into sandy calcareous, loamy calcareous, and clayey calcareous. While in calcareous sands, clays, and loams, the proportion of loam does not exceed 5 per cent. The difference of composition denoted by difference of name, is similar to the sulphates and sulphites of chemical nomenclature, which contain different proportions of sulphuric acid.

According to the quantity of pebbly fragments yielded by a square yard, or by a cubic foot of the soil, they may be denominated *gravels*, or *gravelly* sands, loams, and clays.

Vegetable soils vary from the common garden mould, which contains from 5 to 10 per cent. of vegetable matter, to the peaty soil, in which the organic matter is about 60 to 70 per cent. They will be vegetable sands, loams, clays, marls, &c.

Considered geologically, soils may be classed in three groups:

1. *Local* soils, or those derived exclusively from the debris of the rock on which they rest unmixed with materials of other rocks.

2. *Erratic* soils, containing the unmixed materials of several, and in many cases distinct formations, transported by currents of water which, at the close of what is called the tertiary period of geology, acted irrespectively of the present lines of drainage and sea levels.

3. *Alluvial* soils, composed of finely divided matter, transported and deposited by rivers and tidal currents, in subordination to the existing levels and lines of drainage.

To CLEAN WALL PAPER.—Soiled wall papers may be made to look as well almost as new, in most cases, by the following expedient:—Take about two quarts of wheat bran, tie it up in a bundle of coarse flannel, and rub it over the paper. It will cleanse the whole paper of all description of dirt and spots, better than any other means that can be used. Some use bread, and dry bran is better.

The Farmer and Planter.

PENDLETON, S. C.

Vol. VII., No. 8, : : : : : August, 1856.

The Law of Newspapers.

1. Subscribers who do not give express notice to the contrary, are considered as wishing to continue their subscriptions.

2. If subscribers order the discontinuance of their papers, the publisher can continue to send them until all arrearages are paid.

3. If subscribers neglect or refuse to take their papers from the office to which they are directed, they are held responsible till they settle their bill, and order the papers discontinued.

4. If any subscriber removes to another place without informing the publisher, and their paper is sent to the former direction they are held responsible.

5. The court has decided that refusing to take a newspaper from the office, or removing and leaving it uncalled for, is prima facie evidence of an intentional fraud.

Come up the Country.

Come up the Country, instead of going to the North to spend your Summers.—Gentlemen wishing to purchase land in our section of the State, are referred to our advertisement of the Huger place, near Pendleton. The house thereon with a part of the out-buildings may be taken possession of and occupied the present summer, if desired, by a purchaser.

Acknowledgments.

Judge Evans will accept our thanks for his recent excellent speech in the Senate. We have not received Judge Butler's, but have read it in our exchanges, and consider it the *very best* speech he ever did make any where.

Exchanges.

We have received the "Farmer & Visitor," published at Manchester N. H., by Eastman & Chase. We shall be pleased to exchange with the Farmer & Visitor as we formerly did with the Granite Farmer, its predecessor.

Strayed or Stolen.

We have been sending our paper, now some five years, to the address of Daniel Hughey, *Montville, Chesterfield District*, and not until recently have the papers been returned, by some one we know not who, nor from what office, with the endorsement, "No such office in Chesterfield." Now where has the paper been going to for such length of time, without any such notice heretofore? Does any one of our subscribers know of the whereabouts of Daniel Hughey? Is he in the vicinity of Mountville, Laurens District? We have written to the post master at that office but can get no answer. It may be that with the order for the first volume taken (which was paid for) the name Montville, instead of Mountville was sent us—but if so, why Chesterfield District, and where has the paper been stopping for the last five years? perhaps in the "dead letter" office, or it may be travelling yet for aught we know.

The State Agricultural Society.

The time (the second Tuesday in November) is rapidly approaching when our State Society will hold its first annual fair. Are we all preparing for it? Has every body resolved on going to it, and thereby giving it countenance and good will, even if they have nothing to show? We sincerely hope so, but much fear there is too much luke-warmness—too little interest felt or taken in the good cause. This will not do friends, let us be up and doing; let us take hold of the thing in good earnest; let us make a "strong pull, a long pull, and a pull altogether," and success is certainly ours. Let it not be said that we are behind all our sister States in efforts to avance the agricultural interest of our own—that we are the "Rip Vanwinkle" of the age—sleeping while others are so nobly contending for the prize.

A Good Crop of Wheat.

In a conversation with Col. A. P. Calhoun, the President of our State Agricultural Society, a few days since, (July,) he informed us that he was then engaged in getting out his wheat crop—that he had already out 500 bushels, and had yet on hand 100 stacks, which would average about eleven bushels each, which, added to the above, will amount to 1600 bushels. The Colonel stated that his wheat was somewhat injured by the rust, sufficiently, we presume, to reduce the crop some two or three hundred bushels. The wheat crop the present year, is, we believe generally inferior to the last year's crop. Our own, with double the number of acres sown, will not equal the last crop; and so we have heard of others, and hence we conclude, Col. C.'s wheat grew on bottom land, which was less effected by the dry weather in the spring, though, perhaps, more by rust than that on up-land, yet with as favorable a crop year as the last was, he must have made at least 2500 bushels. The Colonel informed us he had 120 acres (10 of upland,) in wheat, which makes the fair average for our State, of about 13 bushels per acre. Although Col. C.'s Seneca lands produce cotton equal, we believe, to any so high up in the State, he is persuing what we must consider the better course of farming and stock raising on his Fort Hill place, which he is daily improving and beautifying. This is, as it should be, honor-

able to its *present*, and most gratifying to the old friends of its *former* illustrious occupant. Col. CALHOUN has on his Fort Hill farm, a beautiful stock of Devons, the mentioning of which reminds of our neglect to acknowledge his kind attention in presenting us a fine young bull, some months since. of that, as we consider it, superior breed of cattle.

Malta or Paraguay Tea.---Ilex Euponia !

We find in the "Carolina Cultivator," with the article there referred to, the following remarks, taken from the "Carolina Spartan."

Ho for North Carolina.

TEA! TEA! TEA!

"MESSRS. EDITORS:—Every schoolboy has learned from his geography that a singular shrub called *matte* is found in the southeastern part of South America, of which the natives make tea; but it will be astonishing to your readers to learn from the subjoined article, copied from the correspondence of the Journal of Commerce: 1st. That said article, as a beverage, is regarded as not only a great luxury, but almost a *necessary* of life! 2d. That so vast an amount of it is exported to other parts of the world. But above all, 3d. *That it has long since been known to abound in North Carolina!* Hoping that our industrious neighbors of that State will do the public the favor to look after this rare and valuable shrub, and give us some more definite account of it, I beg that you will insert the following article and oblige,

Yours, truly, SPARTACUS."

We have not room at present for the article by "Paul," giving an account of this shrub, its uses, &c.; but it may be found growing near Pendleton, in the garden of Mr. VANWICK, at the former residence of our old friend the late SAMUEL MAVERICK, who procured it, we think he informed us, in North Carolina. We recollect, on visiting him some years before his death, in walking through his garden, he pointed it out to us as the "Eupon," and informed us the leaves were used in parts of North Carolina for making tea—that the beverage was not pleasant to a person at first, but became quite so after using a short time—and that if brought from some foreign country and sold at a high price, it would be as much sought after as the best of our imported teas. Mr. MAVERICK had but one tree, which was some 8 or 10 feet high, we think, when we last saw it. We were fearful on seeing the above account of the "matte," that this tree had been distroyed, but on enquiry, we understand from Mr. VANWICK that it is yet standing on the spot it has occupied for very many years, and where it had been placed by its most industrious and enterprising owner, who introduced in his day of activity, a greater variety of foreign grapes and other rare plants, than perhaps any other man in the up country, and whose services have not been duely appreciated by many of us who are now enjoying the fruits of his labors. We but rarely eat a good apple, peach, plum or other good fruit, without thanking in our heart the man who introduced or planted the tree or vine on which it grew. Such men have done praiseworthy services for those they have left behind, who should in turn be admonished by their good example to do likewise for their posterity. Plant a tree or a vine, even if you are a hundred years old

The Peach.

As this is the season for the peach, we desire to say something about its proper culture.

Considering its fine quality, the deliciousness of its flavor, and the universal fondness for it, we think no fruit has been so much neglected. In fact, generally, it has received no other attention than to plant the seed in a nursery, and then remove them to some old field and suffer them to grow without any training or pruning, and to contend with the old field-sedge, which in a few years, is fatal to to our neglected peach orchards.

We could mention several gentlemen in our community, who are honorable exceptions to this general practice, and who, in a few weeks, will enjoy the luxury of this delicious fruit in perfection. The kind or variety they cultivate is known as the Bordeaux. It was introduced in the neighborhood of Pendleton, many years ago, by SAMUEL MAVERICK, who imported it from the town of the same name in France. He paid great attention to it, and kept the parent tree alive until a few years ago. All in this neighborhood has been propagated from that tree, and its descendants by budding, which is the only true and correct mode, for it is a singular fact that the seed of the Bordeaux produces a distinct and entirely different variety—the one being a cling, and the other a free stone.

It is impossible to describe by the pen the deliciousness of flavor, and the richness of this peach. It is like the "pudding, the proof of which is in the eating." It is remarkable in size. We have known them to weigh from 12 to 14 ounces, one great cause of which they are not large bearers. The principal reason why the common peach is so inferior is, the tree is suffered to produce more fruit than it can mature. The tree is often broken down by its great weight of fruit. We have known whole orchards almost ruined from this cause, and neglecting to prop the limbs. The proper remedy, if you want to save your trees and have good fruit, is to thin the exuberance of nature, and not suffer the trees to bear more fruit than they can sustain and ripen well.

We stated above that the only true mode of propagating the peach is by budding. As this is the proper season for this operation, we would like, if we had time, to describe minutely. We presume most of our readers are familiar with it; if they are not, they should learn from some one who is acquainted with it, as it is much better learned by seeing it done, than by seeing it described. Ladies, particularly, and all who are fond of flowers, should learn the art of budding, for if your neighbor has a fine rose which you would like to have, you need not wait till it can be produced from a cutting, but you may, by budding, transfer it in a single

season to your own garden, and the next season it will shed its beauty and its fragrance around you.

This fact applies to the peach and all kinds of fruits as well as to flowers; that is, you can produce a new variety of peach or other fruits by budding or grafting, much sooner than by the process of raising from the seed. For instance, you can insert a bud of a peach, or pear, or apple, or apricot, into a bearing tree, and in two years you will have the identical fruit. You gain all the previous growth of the stock you insert in, and have fruit in half, and with some buds, in one-fourth the time they would reach maturity or bearing from the seed. This is a decided advantage over the ordinary mode of propagating fruit For instance, we received this season, through a friend, from Mr. Lyon's gardens, in Columbia, a couple of limbs or twigs from his celebrated *Chinese* peach tree, which is said to be the finest peach in the world. These we lost no time in inserting in healthy, bearing peach trees, and we hope in 2 years to have the pleasure of eating this celebrated peach; but until then, the proof of the pudding being the eating, I cannot give up the Bordeaux. Another instance, related to us by a friend. He received by letter and the mail, several twigs from a celebrated pear grown in the garden of a gentleman of Winnsboro', last season. The pear was described by his friend to have been imported from France, and the fruit to weigh 24 ounces a piece. These he lost no time in inserting, some of them into bearing stocks of the pear, the quince and the apple; and he has the pleasure of informing us that now, 12 months afterwards, he has a growth of nearly four feet in one season, and hopes by another year, he will have the pleasure of tasting this delicious pear.

Thus, how rapidly can the luxuries of good fruit be propagated and extended throughout our country, making the Post office the means of transportation, as it is now the vehicle of our thoughts. In point of economy, too, it is a great saving, this process of budding being a very cheap, as well as a rapid mode of enlarging our orchards, and extending good fruit. An expert hand will insert several hundred in a day, which, if you had to purchase them from a fruit nursery, would cost rrom 25 to 75 cents a piece. Besides, you would loose the time you would gain in budding in bearing trees. In relation to the flower garden, and the propagation of rare and beautiful specimens, it cannot be too highly recommended. We know some of our lady friends who delight in this most lovely employment, and they, like their mother Eve, while—

"She her soft tendance gave,
They the lovelier grew."

Since writing the above, we have concluded to add the manner of performing the process of budding:

In the first place, be provided with a sharp knife, and it would be well to have a flat ivory haft at one end of the handle, though we usually perform the operation with a common knife; also provide some woolen thread for bandages.

In the next place, you are to provide a parcel of cuttings of the trees from which you intend to take the buds; these cuttings must be shoots of the same summer's growth. Having the cuttings, knife and thread and everything ready, then proceed in the following manner:

With the knife make a cross cut in the rind of the stock, minding to make the cut no deeper than the bark; then from the middle of the cross cut let another be made downward, about 2 inches in length, so that the two cuts together form a T, in which insert the buds. Then get one of your cuttings or shoots and take off the bud in this manner:

You are to begin towards the lower or biggest end of the shoot, and in the first place, cut off all the leaves, but observing to leave part of the foot stock of each remaining; then, about an inch below the lower eye, make a cross cut in the shoot almost half way through with the knife slanting upwards, and with a clear cut bring it out about half an inch above the eye or bud, detaching the bud with part of the bark thereto. Some introduce the knife above the butt and come out below. Then immediately let that part of the wood which was taken off with the bud, be separated from the part in which is contained the bud; this is readily done with your knife, placing the point of it between the bark and wood at one end, and so pull off the woody part, which will readily part from the bark; then quickly examine the inside to see if the eye of the bud remains, for if there appears a small hole, the eye is gone with the wood, and is, therefore useless; take another, but if there be no hole, the bud is good, and is to be immediately inserted in the stock, observing, for the reception of the bud, to raise gently with your knife the bark of the stock on each side of the perpendicular slit from the cut above, and directly thrust the bud gently in between the bark and the wood, placing it as smooth as possible, with the eye of the bud in the middle, observing if the bud be too long for the incision in the stock, shorten it so as it may slip in readily, and lie perfectly close in every part.

Having fixed the bud, let the stock in that part be immediately bound round with the string, we sometimes use strips of old calico or strong wrapping paper, on which grafting wax has been spread, beginning a little below the cut and proceeding upwards, drawing it closely round to the top of the slit, but be sure to miss the eye of the bud, bringing the tying close to it below and above, only just leaving the eye of the bud open, and this finishes the work for the present.

In three weeks or a month after the inoculation is performed, the buds will have united with the stock, which is discoverable by the bud appearing plump, and those that have not taken will appear black and shrivelled; therefore let the bandage of those that have taken be unbound, and this is done in order to give free course to the sap, that the bud as it swells, may not be pinched, for were the bandages suffered to remain as first tied, they would pinch the buds and spoil them. To prevent this, it will be advisable to loosen them all in about 3 weeks, or at farthest a month after budding, which concludes the work till next March, as until which time the bud remains dormant, then shoots forth with vigor.

At that time, the beginning of March, you are to cut off the shoots, observing to cut them off about a hand'

breadth above the insertion of the bud, and this part of the stock is to remain till next spring, and will serve to tie the shoots to.

The general season to bud or inoculate is, from about the latter end of June, till near the same time in August, according to the forwardness in growth of the shoots of the different trees you would bud from; and this you may easily know by trying the buds, and when they will readily part from the wood, as above mentioned in the work. it is then the proper time to bud the several kinds of fruit, and other trees and shrubs that will grow by that method.

Look over the trees which were bedded last summer, and let all shoots that arise from the stock, besides the bud shoot, be displaced, for these would rob the proper shoot of some nourishment.

The buds will now have made vigorous shoots, if any seem to require support, let them be properly secured, either with stakes, or tied to that part of the stock left above the bud.

Agricultural Reform---Shallow Plowing, &c.

The following well timed appeal by a "Young Farmer," we take from the "Southern Cultivator." Read, reflect on, and profit by it.—Ed. F. & P.

Editors Southern Cultivator:—Having to take charge of and make a living upon a partially worn out farm, interspersed here and there with red galled spots and beautifully winding gullies of various sizes, it is with a keen sense of its importance that I fully and cordially appreciate your efforts to redeem Southern agriculture from its low estate, and to elevate it as a *science* to its proper and legitimate standard. In furtherance of this object, I propose to submit to the consideration of your readers a few thoughts upon the subject of agricultural reform. Although this is a theme about which much has been written, and may, therefore, be styled a threadbare subject. The vast interest intimately connected with it will ever be an excuse to any writer who, prompted by a due regard of its importance, may see proper to call the attention of agriculturists to it.

In the first place, is there any reform necessary? To answer this question properly, it must be done by a reference to what effect the present system of shallow plowing and the planting of a large number of acres to the hand has had upon our lands.

Have they retained their original fertility? We assume the negative of this question, and if we are right, reform is necessary.

What are the indications that sustain us in our position? Are there any facts aside from reason itself that go to prove the exhausting effects of this policy? The indications are "plain, palpable and easily to be seen." In travelling over the country one is painfully and and constantly reminded of the defects of this system. The large bodies of land tufted out to grow broomsedge, the red, barren hill sides and the deep gullies running along them are striking and convincive examples that something is wrong in the present mode of cultivating our lands.

Why are these lands not now producing the large crops they once did? Why are these broomsedge fields not in cultivation and remunerating the farmer for his labor by their increased productions? Why are not these barren hill sides teeming with luxuriant crops of grain? The reason is plain to the most careless observer. The policy of shallow plowing, and the wretched practice of taking crop after crop from the soil without returning any equivalent, either in the shape of barn-yard manures or the turning under of green crops, has exhausted its fertility and produced a barren waste, unfit to be seen where responsible and intelligent beings exist. The diminished production of land that has been in cultivation but a few years indicate that the *same* destructive system is being pursued upon lands now under tillage, and proves clearly that in a few years thousands of acres now producing fine crops will have acquired a just right to be called "worn out," and, therefore, entitled to all the privileges and immunities of the phrase.

These are the facts and proof positive that our soil has lost and is still losing its original fertility. Will any intelligent farmer, then, in the face of this evidence deny the necessity of reform? We apprehend there are none who have come within the happy and refining influence of agricultural life so blind and reckless of the lessons of experience and observation as to be insensible to the teachings of these facts. We ask you then, fellow tillers of the soil, why not reform? Why continue thus to impoverish your richest inheritance? Do not these red gullied spots upon your hill sides repudiate the course you are now pursuing? Do not these gullies, running along your fields from one side to the other, condemn your present policy? Does not your own conscience reprove you for thus treating one of heaven's kindest gifts to man? Why force the young farmers of the country to leave their native State? Why compel them to break the tender ties of a beloved home, that they may find, in the far West, land that will remunerate them for their labor? But independent of the indications to which we have alluded, has there not been presented through the agricultural papers evi-

dence sufficient to convince any one of the utility of a change?

Successful experiments, based upon deep plowing, high manuring and a thorough preparation of the soil, have been reported time and again through these journals. Why, then, not adopt this system? By it you increase the production of your land, render it more fertile, and enhance its value. By the other you destroy all its valuable properties and it becomes, both to you and the rest of mankind, a worthless waste. Make this change, then, in the mode of cultivating your land, and receive rather the *blessings* than the *curse* of posterity.

A Young Farmer.

Gwinnett County, May, 1856.

From the Southern Planter.

Remedy for Colic in Horses.

Mr. Ruffin:—I have intended, for some time, to request the re-publication of "A Remedy for Colic in Horses," which appeared in Southern Planter, Vol. III. page 47. I have used the medicine with entire success, for seven years, and in several of the severest cases I ever saw. I had lost two of the best horses I owned, previous to this publication. But since have practiced this way, I have never, so far, had a horse to remain sick thirty minutes after giving the drench.

By the way, I would advise every man who has a sick horse, to give this medicine, although he may be told by others that his horse has "the grubs," for the syptoms in both cases are alike. I said the syptoms in both cases are alike but I must make a reserve, for I believe that in ninety-nine cases out a hundred that are said to be grubs, the horses die by colic—and grubs being found in them the cases are then, decided to be grubs.

Here is the recipe:

"Take two quarts of cold water in a hand basin, add with your fire shovel say a pint of hot wood ashes or embers, and stir. Cut off an inch and a half from a common handful of tobacco, and shred in the mixture. Stir all up and let it stand for fifteen minutes and settle. Pour off a common black bottle full of the fluid, and drench your horse. In half an hour he will be well.

"Rationale: The gas which bloats the horse is probably carbonic acid gas and light carburetted hydrogen, the product of the vegetable decomposition which is going on in the intestines; at any rate, it is a gas which is immediately absorbed by its combination with an alkali.

"The tobacco is a powerful anti-spasmodic and cathartic; it, therefore, prostrates the nervous sensibility, checks the inflamation, and increases the action of the lower intestines. In a critical or extreme case, it will be well to give an enema of a strong decoction of tobacco with a common syringe. Out of more than one hundred instances in which I have seen this remedy used, I have yet to witness the first failure. It has also an advantage over very many remedies, viz: it cannot injure a horse in perfect health. Feed light for a day or two.

Causes of Colic.—The main cause consist in the presence of a greater amount of food than the intestine can elaborate into nourishment, or of a kind of food difficult of digestion, producing spasm, obstruction vegetable decomposition, and consequent inflamation. *Hard driving on a full stomach* will produce colic, because the effort weakens the tone of the digestive powers, and they cannot elaborate the food—which then produces irritation and inflamation.—*Cold water when the horse is heated*, because it is a powerful stimulus, will produce spasm or obstruction, or by the re-action produce weakness of the digestive organs. It also gives too much fluidity to the food—fluids are more difficult of digestion than solids. It also increases the fermentation. *Hearty feeding after hard driving*, because the stomach and intestines sympathyize with the general fatigue of the system, and are easily overloaded, and the appetite will induce the horse to eat more than he can digest.

"Colic is first flatulent, then inflammatory. In the flatulent stage, or in what is called belly-ache, armatic remedies, or half a gill of spirits of turpentine, or a pint of whiskey and black pepper may be given. All these stimulate the system, and may assist it in overcoming the difficulty. But in the latter and inflammatory stage, which rapidly succeeds the former, these same remedies would produce speedy death by increasing the inflammation. In nine cases out of ten, this disease is not observed by the ordinary driver, until it has assumed the inflammatory form—in which stage, the remedy at the head of *this* article should be given with as little delay as possible; although it should not be omitted, even if the horse be supposed to be in the article of death itself, for I have seen them recover when every by-stander had dismissed all hope. T. N. Wells.

French Creek, Peoria County Nov 22, 1851."

Ladies' Department.

For the Farmer and Planter.

A Letter from Lucy.

Dear Farmer and Planter:—My husband has taken you for the last year and more, and I always find some things to read in you, myself, —something about dairy, poultry, garden, and indeed other articles too, for of course a wife naturally becomes interested in her husband's

pursuits, and mine being a planter, I have learned to feel a pleasure in reading agricultural journals, and *you* have always some articles that will interest ladies, as well as gentlemen, for we are not *all* the senseless things that many portray us in their writings; but thank patience, woman is a very generally cultivated plant, well enough known to be judged by individual experience—so written libels lose their force.

Nancy writes of us as if she were no *woman*, but one who had doffed the *pants* for the nonce, merely to write that piece. I do not mean to fall out with Nancy, for her advice *is* good, only I must insist, we are not all so utterly useless and good for nought; even if brought up indifferently, the *true woman* will work its way to the surface under almost any circumstances. Now, for myself, I never learned any of these things that Nancy so strongly urges upon (not that I think her wrong,) and now I cut and fit, make and bake, raise poultry, and garden, as if I "was to the manor born;" not but that I should have had a much easier time, had I been properly instructed in those things, for when I had them to do, I also had them to learn, while others were looking to me to be taught. But all this is not what I took up my pen about. As I said before, I am a planter's wife, and I cure our own bacon; but I am not satisfied with it—it is too salt, and becomes hard by keeping.—Do give us in your paper a really good recipe for curing and preserving bacon, and I, for one, will be thankful for it. This is taking time by the fore-lock, you think, to be talking in August of curing bacon; but the winter will *surely* come, you know, and if I wait till then to ask, perhaps the recipe won't make its appearance in time to benefit myself and others who may be in the same fix. I have packed our hams this year in charcoal to keep out the skippers. If it succeeds, I will let you know.

Before closing, I will give you a recipe that all of your lady readers will be glad to get, if you do not think it out of place, in your journal.

To Clean Hair Brushes.—Fill them in with corn meal, let it remain awhile, and then comb it out with an old comb that you don't mind breaking; repeat this, and the brushes will be thoroughly cleansed, and almost as good as when just from the hair dresser's.

You invited us to write, you remember. I have written, it is at your option to publish.

Lucy.

Many thanks, Lucy. Although you have not complied with our rules of sending a responsible name, we publish your article, and will attend to your request in due time.—Ed

What is the Profession of a Woman?

Is it not to form immortal minds, and to watch, to nurse, and to rear the bodily system, so fearfully and wonderfully made, and upon the order and regulation of which the health and well-being of the mind so greatly depends?

But let most of our sex upon whom these arduous duties devolve, be asked: have you ever devoted any time and study, in the course of your education, to any preparation for these duties? Have you been taught any thing of the structure, the nature, and the laws of the body, which you inhabit? Were you ever taught to understand the operation of diet, air, exercise and modes of dress upon the human frame? Have you ever been taught the causes operating to prevent good health, and the modes by which it might be preserved? Almost every voice would respond, No: we have attended to almost every thing more than to this; we have been taught more concerning the structure of the earth; the laws of the heavenly bodies; the habits and formation of plants; the philosophy of language; more of *almost any thing*, than the structure of the human frame and the laws of health and reason. But is it not the business, the *profession* of a woman to guard the health and form the physical habits of the young? And is not the cradle of infancy and the chamber of sickness sacred to woman alone? And ought she not to know at least some of the *general principles* of that perfect and wonderful piece of mechanism committed to her preservation and care?

The *restoration* of health is the physician's profession, but the *preservation* of it falls to other hands; and it is believed that the time will come, when woman will be taught to understand something respecting the construction of the human frame; the philosophical results which will naturally follow from restricted exercise, unhealthy modes of dress, improper diet, and many other causes, which are continually operating to destroy the health and life of the young.—*Journal of Health.*

The Husband's Commandments.

1. Thou shalt have no other husband but me.

2. Thou shalt not take into my house any bearded foreigner with curly moustache, under any pretence whatever.

3. Thou shalt not speak of thy husband's faults behind his back nor before others.

4. Remember thy husband, to treat him kindly.

5. Honor thy husband's father and mother for the sake of harmony.

6. Thou shalt alway speak kindly to thy husband.

7. Thou shalt have thy meals ready at the proper hours.

8. Thou shalt not use snuff.

9. Thou shalt not visit wicked places of amusement, nor fine clothing stores.

10. Thou shalt not covet $500 shawls, nor $600 piano-forts, thereby scattering thy husband's means, and running him into bankruptcy.

11. Thou shalt greet thy husband with a smile and salute him with a k kiss upon his return.

12. Thou shalt not attend Woman Right's Conventions, where the legitimate rights of husbands are repudiated.

13. All these commands shalt thou strictly observe, that it may go well with thee, with thy husband, thy children and thy children's children to the fourteenth generation.—*Olive branch.*

Pickles.

This being the season of the year at which almost every housewife is busily employed in replenishing her annual store of pickles, it may not be improper for us to say a few words on the value of these articles, in a dietetic point of view.

No one, we presume, considers the various pickles usually met with on our tables as articles of food—they can be viewed in no other light than as exciters of the appetite, or as a means of imparting an additional flavor to the more substantial viands of which the meal is composed.

The articles generally selected for pickling, are unripe vegetable substances, and those of the most indigestible; as for instance, immature cucumbers, or melons—the young ears of indian corn—unripe walnuts, peppers, and the like. Whatever principles in any degree soluble by the stomach these may contain, previous to their conversion into pickles, they are completely destroyed by the latter process: hence, when served at table, a pickle consists simply of an indigestible sponge saturated with vinegar.

A moderate quantity of vinegar, it is true, is by no means an unwholesome addition to many articles of food. When made use of, however, in the form of pickles, its wholesomeness is entirely destroyed, as well by the indigestible mass with which it is combined, as by the pepper and other species by which it is highly flavored. These, besides disordering the stomach of themselves, are very apt to produce a factitious appetite, or to prolong the desire for food after the natural appetite has been satisfied—in either case endangering the loading of the stomach with a quantity of aliment far beyond its powers of digestion, or the actual wants of the system.

By the individual in perfect health, the same bad effects, therefore, are to be anticipated from the use of pickles, excepting in very minute quantities, as from indulgence in every other superfluous condiment—while to the person whose digestion is slow, painful, or imperfect—in other words, to the dispeptic, or to the invalid from any cause, the indigestible nature of pickles, independently of their other properties, renders their introduction into the stomach, in any quaneity, productive of the most serious injury. Pickles are to be included, also, among those articles from the use of which children are to be strictly prohibited.

By those who cannot be persuaded to relinquish entirely the use of pickles, great caution should be observed as to the nature of the vessel in which they are kept. From a want of attention in this respect, they may be rendered poisonous; or, at least, a very painful, and sometimes fatal, disease may be induced by partaking of them.

The glazing of earthenware is in general produced by a preparation of lead, which is readily acted upon by vinegar, and other vegetable acids: hence, when the latter are kept in jars of this description, they become in a short time charged with what is termed sugar of lead—the introduction of which into the system is attended with the serious consequences already referred to. The only vessels which pickles, or indeed any vegetable substance of an acid nature, should be kept, are those of stone glazed with salt; or what is still better, those formed of green or black glass

Confectioners, and they who make a business of putting up pickles for sale, use glass almost exclusively—stone, or earthenware being considered by them unfit for the reception of pickles, acid liquors, or even preserves, sweet jellies, or syrups, not only from the poisonous properties derived from the glazing—but from the circumstance that all substances containing sugar, more readily ferment and become sour in them than in glass.

There are two articles generally included under the denomination of pickles, which deserve a separate notice—they being far less exceptionable than the ordinary articles of this class. The first of those is the beet. This, when well boiled, cut into slin slices, and immersed in vinegar, may be taker in moderation, by a healthly stomach, without the least inconvenience. It should, however, be cooked in this manner, but a short time before it is eaten; when prepared for keeping, it loses, like other pickles, nearly all its nutritive properties.

The other article to which we allude, is the *sauerkraut*, or fermented cabbage. For winter use, there are few vegetable substances more wholesome, when well prepared; particularly as an addition to salted food. The sour crout is, also, an almost indispensable article of diet at sea, during long voyages, or, indeed, wherever a constant supply of fresh vegetables cannot be obtained. It is to be observed, however, that we are now speaking of its use by the healthy and robust; for, as is the case with cabbage in any form, it is digested with great oppression and uneasiness, pain, or even more dangerous affections. To insure its digestion, even by the strongest stomach, it is always proper that the sour crout be well boiled before it is eaten

It was our intention to add a few remarks on the subject of preserves—this, however, we find our limits will not admit of our doing on the present occasion; we must postpone, therefore, what we have to say, to a future number.

[*Journal of Health.*

A Hint.—If your flat irons are rough and smoky, lay a little fine salt on a flat surface and rub them well; it will prevent them from sticking to any thing starched and make them smooth.

Ruta Baga is the only root that increases in nutritious qualities as it increases in size.

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